

**ADDITIONAL HISTORIC RECORDS OF *CICINDELA DORSALIS* SAY AND
CICINDELA PURITANA HORN (COLEOPTERA: CARABIDAE: CICINDELINI)
FROM THE CHESAPEAKE BAY REGION, USA**

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Abstract.—Previously unpublished historic records are presented for two tiger beetle taxa of conservation concern from the Chesapeake Bay region, *Cicindela dorsalis* Say and *C. puritana* Horn. *Cicindela dorsalis dorsalis* was encountered regularly at Chesapeake Bay sites by collectors during the 1940s and 1950s, when other populations of this subspecies were experiencing a severe decline. The historic presence of *C. dorsalis media* LeConte in the southern Chesapeake Bay is documented by specimens collected in 1882. *Cicindela puritana* has been collected regularly at sites in Calvert County, Maryland, since 1911, sometimes in large numbers. Both *C. d. dorsalis* and *C. puritana* are currently listed as “Threatened” under the U.S. Endangered Species Act.

Key Words: *Cicindela dorsalis*, *Cicindela puritana*, tiger beetle, conservation, distribution, endangered species

The shores of the Chesapeake Bay are home to an unusual tiger beetle fauna (Boyd 1975, Glaser 1976) which includes two taxa currently listed as “Threatened” under the U.S. Endangered Species Act (U.S. Fish and Wildlife Service 1990). My recent curatorial work in the collections of the Smithsonian Institution’s National Museum of Natural History (NMNH) resulted in the discovery of additional historic specimens of both of these species which were collected at sites along the Chesapeake Bay.

Specimens from museum collections have already provided information that is essential to the development of conservation strategies for these tiger beetles. Besides documenting historic populations and population declines (Knisley et al. 1987; Hill and Knisley 1993, 1994), museum specimens have also provided insights into historic patterns of genetic variation in both

species (Vogler and DeSalle 1993; Vogler et al. 1993a, b). Consequently, I felt that a short paper summarizing these additional historic records would be appropriate and relevant to current conservation efforts for these beetles.

Cicindela dorsalis Say

Two subspecies of *C. dorsalis* occur on beaches along the Maryland and Virginia shores of the Chesapeake Bay, *C. d. dorsalis* Say and *C. d. media* LeConte (Knisley and Schultz 1997). The specimens listed below represent additional historic records of both subspecies from the Chesapeake Bay region.

Cicindela dorsalis dorsalis Say

This subspecies is currently listed as “Threatened” under the U.S. Endangered Species Act (U.S. Fish and Wildlife Service

1990). Once found in vast numbers on sandy beaches along the northeast coast of the United States, *C. d. dorsalis* experienced significant declines during the mid-twentieth century and is no longer found at most of its historic collecting localities (Stamatov 1972, Knisley et al. 1987, Hill and Knisley 1994).

Although *C. d. dorsalis* has disappeared from much of its former range, populations along the Maryland and Virginia shores of the Chesapeake Bay appear to be relatively robust (Hill and Knisley 1994). Indeed, surveys over the past thirty years have revealed many more populations of this species in the Chesapeake Bay region than had previously been known (Boyd and Rust 1982, Knisley et al. 1987, Hill and Knisley 1994, Knisley, personal communication).

Cicindela d. dorsalis was first recorded from the Chesapeake Bay region by Boyd (1975), who reported recent collections from several localities in Calvert County, Maryland: Calvert Beach, at the base of Calvert Cliffs, Cliffs of Calvert, Cove Point, and Matoaka Beach. Glaser (1976, 1984) reported this species from two additional Calvert County localities, Camp Roosevelt and Flag Ponds. Boyd and Rust (1982) noted these localities and also mentioned three older specimens collected on 25.VI.1941 in Mathews County, Virginia. Following extensive surveys in the 1980s and early 1990s, Hill and Knisley (1994) reported that adult beetles were found at 13 sites in Calvert County, Maryland, and 55 sites in Virginia.

Other early collecting records of *C. d. dorsalis* from the Chesapeake Bay region have not been mentioned in the published literature. While curating the NMNH collection of these beetles, I found 30 specimens which had been collected prior to the publication of the first report of *C. d. dorsalis* from the Chesapeake Bay region.

USA: Maryland: Calvert County: Breezy Point Beach, 14.VII.1950, O. L. Cartwright (3 ♂); Calvert Beach, 4.VII.1973, J. M. Sheppard (1 ♀); Cove Point, Chesapeake

Bay, 27.VIII.1972, J. M. Sheppard (4 ♂, 2 ♀); Flag Pond, 3 miles south Kenwood Beach, 24.VI.1959, O. L. Cartwright (2 ♀), P. & P. Spangler (1 ♂); Kenwood Beach, 5 miles south Prince Frederick, 5.VII.1950, G. H. Nelson (1 ♂, 3 ♀), 29.VIII.1950, G. H. Nelson (2 males); Plum Point, 24.VII.1949, O. L. Cartwright (1 ♀); Port Republic, 20.VII.1950, M. H. Hatch (1 ♀); Prince Frederick, 21.VII.1950, G. H. Dieke (2 ♂, 1 ♀). St. Mary's County: Point Lookout, on sandy beach, Chesapeake Bay, 22.VI.1944, G. B. Vogt (1 ♂, 1 ♀), 1.VII.1944, G. B. Vogt (1 ♂, 2 ♀). Virginia: state label only (1 ♀).

These specimens demonstrate that adults of *C. d. dorsalis* were regularly encountered by collectors at Chesapeake Bay beaches in the 1940s and 1950s, during a time when many other populations of this subspecies were experiencing severe declines (Stamatov 1972, Knisley et al. 1987, Hill and Knisley 1994). Knisley (personal communication) reports that *C. d. dorsalis* has been found at or near many of these same sites in his recent surveys. Two exceptions are the Breezy Point Beach, which has become a heavily used area and is therefore now unsuitable for beach tiger beetle populations, and the Point Lookout site in St. Mary's County, where Knisley failed to find *C. d. dorsalis* in recent years, indicating another possible extirpation. The continued presence of *C. d. dorsalis* at many of the same sites where it was found in the 1940s and 1950s suggests that there may be grounds for optimism regarding the long-term survival of this subspecies in the Chesapeake Bay region.

Cicindela dorsalis media LeConte

Cicindela dorsalis media LeConte has experienced declines in parts of its range and is currently listed as "Endangered" by the state of Maryland (Yarbrough and Knisley 1994). Knisley and Schultz (1997) were the first to report this subspecies from the Chesapeake Bay. Five specimens of this subspecies in NMNH document its historic

presence in the southern Chesapeake Bay. Three of these specimens lack a precise year of collection but, given that they were collected by H. G. Hubbard and E. A. Schwarz, the specimens would have been collected some time prior to Hubbard's death in 1899.

Virginia: Hampton County, Fort Monroe, VIII.1882 (1 ♂, 1 ♀), 16. VII. [no year], H. G. Hubbard and E. A. Schwarz (3 ♂).

Cicindela puritana Horn

Since 1911, this species has been regularly collected at sites along the western shore of the Chesapeake Bay in Calvert County, Maryland (Hill and Knisley 1993). I recently discovered a wealth of additional material from these sites among the unsorted and unidentified tiger beetle specimens in NMNH.

USA: Maryland: Calvert County: Calvert, 13.VII.1967, J. Stamatov (2 ♂, 2 ♀); Calvert Beach, 4.VII.1973, J. M. Sheppard (12 ♂, 24 ♀), 8.VII.1974, J. M. Sheppard (6 ♂, 3 ♀), VII.1974 (4 ♂, 4 ♀); Calvert Cliffs, VII.1973 (3 ♂, 2 ♀); Calvert Cliffs State Park, 7.VIII.1984, S. W. Gross (5 ♂ and 1 ♀); Chesapeake Beach, 28.VI.1911, E. Shoemaker (2 ♂, 4 ♀); 21.VI.1912, E. Shoemaker (1 ♂); 22.VI.1912, E. Shoemaker (1 ♂); 24.VI.1914, E. Shoemaker (4 ♂, 5 ♀); 30.VI.1929 (5 ♂, 7 ♀), 23.VI.1933, A. Nicolay (2 ♂, 2 ♀), 23.VI.1933 (6 ♂, 4 ♀), 9.VI.1934 (4 ♂, 6 ♀), 22.VI.1934, A. Nicolay (5 ♂, 3 ♀), 22.VI.1934, O. L. Cartwright (3 ♂, 3 ♀), 22.VI.1934 (2 ♂, 3 ♀), 22.VI.1935, A. Nicolay (1 ♂), 1.VIII.1941, on sandy beach below cliff, G. B. Vogt (2 ♂, 3 ♀), 24.VII.1949, at foot of cliffs, G. B. Vogt (6 ♂), 20.VI.1981, Gordon and Wilder (2 ♂); Dares Beach, I.VII.1934, A. Stone (1 ♂, 1 ♀), 26.VI.1949, H. L. Dozier (1 ♂, 1 ♀); Flag Pond, 24.VI.1959, O. L. Cartwright (3 ♂, 1 ♀); Matoaka Beach, Calvert Cliffs, 15.VII.1972, H. P. Boyd (1 ♂, 7 ♀); Plum Point, 24.VII.1949, O. L. Cartwright (9 ♂, 5 ♀), 28.VI.1950, O. L. Cartwright (6 ♂, 3 ♀), 30.VII.1950, on beach, B. H. Dozier (1

♂), 4.VII.1951, S. I. Parfin (1 ♂); Prince Frederick, 21.VII.1940 (2 ♂, 2 ♀); Scientist Cliffs, 28.VII.1979, W. E. Steiner (4 ♂, 1 ♀).

Chesapeake Bay populations of this species have clearly been popular with tiger beetle collectors. It is interesting to note that most collections are of multiple individuals and that large series of specimens have been collected on a single date (e.g., 36 specimens collected on July 4, 1973, at Calvert Beach). Taken together, these two facts suggest that this species was probably abundant at certain times and localities.

ACKNOWLEDGMENTS

I thank Terry L. Erwin for sponsoring my continued work as a Research Associate at the National Museum of Natural History. C. Barry Knisley of Randolph Macon College and Michael A. Valenti of the Delaware Forest Service reviewed the manuscript and provided helpful comments and suggestions for its improvement.

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